

CS 5200 PSET - 5

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Due on: April 11, 11:59 PM

Problems numbers are according to the 2006 version (2008 version highlighted in blue).

For each problem give the dynamic program relation and determine the dynamic program DAG (V_{DP}, E_{DP}) and express running time using it.

Problem 1 Exercise 6.15 (6.15)

Problem 2 Exercise 6.21 (6.21)

Problem 3 Exercise 6.30 (6.30)

Problem 4 A k -coloring of a graph $G = ([n], E)$ is a function $c : [n] \rightarrow [k]$ such that for all $(u, v) \in E$, $c(u) \neq c(v)$. Give a dynamic programming algorithm that given G finds a coloring with the minimum number of colors.